

1. An apparatus for automatically selecting a copy function, the apparatus comprising:

an identification module configured to identify available copy functions in response to a data copy request;

a comparison module configured to compare each available copy function to a predefined copy policy;

a selection module configured to automatically select a copy function that satisfies the predefined copy policy; and

a relationship module configured to establish a copy relationship between the determined copy function and the data copy request.

2. The apparatus of claim 1, further comprising a policy generation module configured to read a set of required attributes from an application and to establish the predefined copy policy based on the set of required attributes from the application.

3. The apparatus of claim 1, further comprising a policy generation module configured to allow a user to determine the predefined copy policy based on a set of required attributes from an application.

4. The apparatus of claim 1, wherein the identification module is further configured to determine a set of copy functions compatible with an application, determine a set of copy functions compatible with a source storage device and a destination storage device, and determine the available copy functions that are common to both the set of copy functions compatible with the application and the set of copy functions that are compatible with the source storage device and the destination storage device.

5. The apparatus of claim 1, wherein the selection module is further configured to compare a predefined copy policy attribute to a copy function attribute for each of a group of available copy functions and to select a copy function with the largest number of attributes that satisfy the application policy attributes.

6. The apparatus of claim 1, wherein the selection module is further configured to calculate a difference between a predefined copy policy attribute and a copy function attribute for each of the available copy functions and to select a copy function where the differences between the copy function attributes and the predefined copy policy attributes are the smallest.

7. The apparatus of claim 1, wherein the selection module is further configured to compare a predefined copy policy attribute to a copy function attribute for each of the available copy functions, to multiply each attribute by a priority factor, and to select a copy function with a highest score.

8. The apparatus of claim 1, wherein the selection module is further configured to calculate a difference between a predefined copy policy attribute and a copy function attribute for each of the available copy functions, to multiply each difference by a priority factor, and to select a copy function with a highest score.

9. An apparatus for automatically selecting a copy function, the apparatus comprising:

a policy generation module configured to establish a copy policy compatible with an application; and

a copy request module configured to:

recognize a data copy request that includes the copy policy;

identify available copy functions;
compare each copy function for a storage device to
attributes of the copy policy;
automatically select a copy function that satisfies the copy
policy; and
establish a copy relationship between the determined copy
function and the data copy request.

10. The apparatus of claim 9, wherein the policy generation module is configured to read a set of required attributes from the application and to establish a copy policy based on the set of required attributes from the application.

11. The apparatus of claim 9, wherein the policy generation module is configured to allow a user to determine a predefined copy policy based on a set of required attributes from the application.

12. The apparatus of claim 9, wherein identify available copy functions further comprises determining a set of copy functions compatible with an application, determining a set of copy functions compatible with a source storage device and a destination storage device, and determining the available copy functions that are common to both the set of copy functions compatible with the application and the set of copy functions that are compatible with the source storage device and the destination storage device.

13. The apparatus of claim 9, wherein automatically selecting a copy function further comprises comparing a copy policy attribute to a copy function attribute for each of a group of available copy functions and selecting a copy function with the largest number of attributes that satisfy the application policy attributes.

14. The apparatus of claim 9, wherein automatically selecting a copy function further comprises calculating a difference between a copy policy attribute and a copy function attribute for each of the available copy functions and selecting a copy function where the differences between the copy function attributes and the predefined copy policy attributes are the smallest.

15. The apparatus of claim 9, wherein automatically selecting a copy function further comprises comparing a copy policy attribute to a copy function attribute for each of the available copy functions, multiplying each attribute by a priority factor, and selecting a copy function with a highest score.

16. The apparatus of claim 9, wherein automatically selecting a copy function further comprises calculating a difference between a copy policy attribute and a copy function attribute for each of the available copy functions, multiplying each difference by a priority factor, and selecting a copy function with a highest score.

17. A system for automatically selecting a copy function, the system comprising:
- an application module configured to send a data copy request;
 - an identification module configured to identify available copy functions in response to a data copy request that includes a predefined copy policy;
 - a comparison module configured to compare each available copy function to attributes of the predefined copy policy;
 - a selection module configured to automatically select a copy function that satisfies the predefined copy policy;
 - a relationship module configured to establish a copy relationship between the determined copy function and the data copy request;

a source storage module configured to store data from the application module; and

a destination storage module configured to store data copied from the source storage module in response to the data copy request using the selected copy function.

18. The system of claim 17, further comprising a policy generation module configured to read a set of required attributes from an application and to establish a predefined copy policy based on the set of required attributes from the application.

19. The system of claim 17, further comprising a policy generation module configured to allow a user to determine a predefined copy policy based on a set of required attributes from an application.

20. The system of claim 17, wherein the identification module is further configured to determine a set of copy functions compatible with an application, determine a set of copy functions compatible with a source storage device and a destination storage device, and determine the available copy functions that are common to both the set of copy functions compatible with the application and the set of copy functions that are compatible with the source storage device and the destination storage device.

21. The system of claim 17, wherein the selection module is further configured to compare a predefined copy policy attribute to a copy function attribute for each of a group of available copy functions and to select a copy function with the largest number of attributes that satisfy the application policy attributes.

22. The system of claim 17, wherein the selection module is further configured to calculate a difference between a predefined copy policy attribute and a copy function attribute for each of the available copy functions and to select a copy function where the differences between the copy function attributes and the predefined copy policy attributes are the smallest.

23. The system of claim 17, wherein the selection module is further configured to compare a predefined copy policy attribute to a copy function attribute for each of the available copy functions, to multiply each attribute by a priority factor, and to select a copy function with a highest score.

24. The system of claim 17, wherein the selection module is further configured to calculate a difference between a predefined copy policy attribute and a copy function attribute for each of the available copy functions, to multiply each difference by a priority factor, and to select a copy function with a highest score.

25. A method for automatically selecting a copy function, the method comprising:

- identifying available copy functions in response to a data copy request that includes a predefined copy policy;
- comparing each available copy function to attributes of the predefined copy policy;
- automatically selecting a copy function that satisfies the predefined copy policy; and
- establishing a copy relationship between the determined copy function and the data copy request.

26. The method of claim 25, further comprising reading a set of required attributes from an application and establishing a predefined copy policy based on the set of required attributes from the application.

27. The method of claim 25, further comprising allowing a user to determine a predefined copy policy based on a set of required attributes from an application.

28. The method of claim 25, identifying available copy functions further comprises determining a set of copy functions compatible with an application, determining a set of copy functions compatible with a source storage device and a destination storage device, and determining the available copy functions that are common to both the set of copy functions compatible with the application and the set of copy functions that are compatible with the source storage device and the destination storage device.

29. The method of claim 25, wherein comparing each copy function for the storage device to objectives of the predefined copy policy further comprises comparing a predefined policy attribute to a copy function attribute for each of a group of available copy functions and selecting a copy function with the largest number of attributes that meet the application policy attributes.

30. The method of claim 25, wherein comparing each copy function for the storage device to objectives of the predefined copy policy further comprises calculating a difference between a predefined copy policy attribute and a copy function attribute for each of the available copy functions and selecting a copy function where the differences between the copy function attributes and the predefined copy policy attributes are the smallest.

31. The method of claim 25, wherein comparing each copy function for the storage device to objectives of the predefined copy policy further comprises comparing a predefined copy policy attribute to a copy function attribute for each of the available copy functions, multiplying each attribute by a priority factor, and selecting a copy function with a highest score.

32. The method of claim 25, wherein comparing each copy function for the storage device to objectives of the predefined copy policy further comprises calculating a difference between a predefined copy policy attribute and a copy function attribute for each of the available copy functions, multiplying each difference by a priority factor, and selecting a copy function with a highest score.

33. A method for automatically selecting a copy function, the method comprising:
comparing each available copy function to attributes of a
predefined copy policy; and
automatically selecting a copy function that satisfies the
predefined copy policy.

34. The method of claim 33, further comprising identifying available copy functions in response to a data request that are compatible with an application, a source storage device, and a destination storage device.

35. The method of claim 33 further comprising establishing a copy relationship between the determined copy function and a data copy request.

36. The method of claim 33, further comprising reading a set of required attributes from an application and establishing a predefined copy policy based on the set of required attributes from the application.

37. The method of claim 33, further comprising allowing a user to determine a predefined copy policy based on a set of required attributes from an application.

38. A computer readable storage medium comprising computer readable code configured to carry out a method for automatically selecting a copy function, the method comprising:

identifying available copy functions in response to a data copy request that includes a predefined copy policy;

comparing each available copy function to attributes of the predefined copy policy;

automatically selecting a copy function that satisfies the predefined copy policy; and

establishing a copy relationship between the determined copy function and the data copy request.

39. The computer readable storage medium of claim 38, wherein identifying available copy functions further comprises determining a set of copy functions compatible with an application, determining a set of copy functions compatible with a source storage device and a destination storage device, and determining the available copy functions that are common to both the set of copy functions compatible with the application and the set of copy functions that are compatible with the source storage device and the destination storage device.

40. An apparatus for automatically selecting a copy function, the apparatus comprising:

means for identifying available copy functions in response to a data copy request that includes a predefined copy policy;

means for comparing each available copy function to attributes of the predefined copy policy;

means for automatically selecting a copy function that satisfies the predefined copy policy; and

means for establishing a copy relationship between the determined copy function and the data copy request.